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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/502,507	02/11/2000	Satoshi Matsumura	JP990008US1	5263

7590

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Andrew J Dillon
Felsman Bradley Vaden Gunter & Dillon LLP
Suite 350 Lakewood on the Park
7600B North Capital of Texas Highway
Austin, TX 78731

EXAMINER

CHEN, TIANJIE

ART UNIT

PAPER NUMBER

2652

DATE MAILED: 04/24/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/502,507

Applicant(s)

MATSUMURA ET AL.

Examiner

Tianjie Chen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 16-25 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 6-15 is/are allowed.
- 6) ☒ Claim(s) 1-5, 26 and 27 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Allowable Subject Matter

10. Claims 5-16 are allowed.

With regard to claims 6 and 10, Umehara et al (US 5,691,581) shows a device as described above. Neither Umehara et al nor the prior art made of record further renders obvious to a combination further having following features: the second aperture has a V-shaped edge for aligning the pivot member, and a portion of the carriage is extruded into the first aperture, and the portion extruded from said carriage pushes the pivot member to the V-shaped edge of the second aperture when the pivot member is inserted into the second aperture and the first aperture. These features make it possible to assemble the head gimbal assembly on the carriage without using the external positioning jig.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- US005828521A to Hasagawa shows an assembly with multiple carriages.
- US 20020039259A1 by Koyama et al shows an assembly with multiple carriages.
- US 20010030838A1 by Takadera et al shows an assembly with a pushing member.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tianjie Chen whose telephone number is (703) 305-7499. The examiner can normally be reached on 8:00-4:30, Mon-Fri.

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-15, 26 and 27, drawn to a datum member for positioning, classified in class 360, subclass 244.5.
 - II. Claim 16-19, drawn to a flexible cable with a latch structure, classified in class 360, subclass 244.1.
 - III. Claims 20-21, drawn to a coil-supporting frame and a crash stop member, classified in class 360, subclass 265.1.
 - IV. Claims 22-23, drawn to a washer made of magnetic material, classified in class 360, subclass 266.1.
 - V. Claims 24-25, drawn to a flexible cable at reference potential, classified in class 360, subclass 264.2.

The inventions are distinct, each from the other because of the following reasons:

Inventions I-V are related as subcombinations disclosed as usable together in a single combination. The subcombinations are distinct from each other if they are shown to be separately usable. In the instant case, the invention disclosed in Group I can be used without the flexible cable with a latch structure disclosed in Group II, without the coil-supporting frame and a crash stop member disclosed in Group III, without the washer made of magnetic material disclosed in Group IV, and without the flexible cable at reference potential disclosed in Group V; the invention disclosed in Group II can be used without the datum member for positioning disclosed in Group I, without the coil-supporting frame and a crash stop member disclosed in Group III,

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without the washer made of magnetic material disclosed in Group IV, and without the flexible cable at reference potential disclosed in Group V; the invention disclosed in Group III can be used without the datum member for positioning disclosed in Group I, without the flexible cable with a latch structure disclosed in Group II, without the washer made of magnetic material disclosed in Group IV, and without the flexible cable at reference potential disclosed in Group V; the invention disclosed in Group IV can be used without the datum member for positioning disclosed in Group I, without the flexible cable with a latch structure disclosed in Group II, without the coil-supporting frame and a crash stop member disclosed in Group III, and without the flexible cable at reference potential disclosed in Group V; the invention disclosed in Group V can be used without the datum member for positioning disclosed in Group I, without the flexible cable with a latch structure disclosed in Group II, without the coil-supporting frame and a crash stop member disclosed in Group III, and without the washer made of magnetic material disclosed in Group IV. See MPEP § 806.05(d).

2. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

3. During a telephone conversation with Michael E. Noe Jr. on 04/03/2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-15, 26 and 27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 16-25 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

4. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

5. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

6. The disclosure is objected to because of the following informalities:

- In p. 10, line 14; "46" should be changed to --47--.
- In p. 11, line 3; the blank before "0.10mm" should be filled.
- In p. 11, line 7; "cartridge" should be changed to --carriage--.
- In p. 17, line 24; "4" should be changed to --42--.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of

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paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-4, 26, are rejected under 35 U.S.C. 102(b) as being anticipated by Umehara et al (US 5,691,581).

With regard to claim 1, Umehara et al shows a head stack assembly in Fig. 1 for a data recording disk drive, comprising: carriage 7 on which a coil 6 (Column 6, line 31) is mounted, having a first surface 7a and a second surface 7b; a first head gimbal assembly 1 mounted on said first surface; a second head gimbal assembly 3 mounted on said second surface; and wherein a datum member for positioning said first head gimbal assembly 1 on said first surface and for positioning said second head gimbal assembly 3 on said second surface is formed on each of said first surface and said second surface of said carriage 7.

With regard to claim 2, Umehara et al further shows that the datum member 71 two datum pins spaced from each other, and each of said first head gimbal assembly 1 and said second head gimbal assembly 3 has two apertures 10 and 20 inot which said two datum pins 71 are inserted, respectively.

With regard to claim 3, Umehara et al further shows that the carriage 7 has an aperture 8a into which a pivot member is inserted, and said aperture is located

between said two datum pins 70 and 71.

With regard to claim 4, Umehara et al further shows that a line passing through the two datum pins 70 and 71 is inclined from a center line extending in a longitudinal direction of said head stack assembly.

With regard to claim 26; Umehara et al shows a head stack assembly in Fig. 1 for a data recording disk drive, including: a carriage 7 mounted with a coil on 6, a head gimbal assembly 1 mounted on a surface of said carriages; and wherein a datum member 71 for positioning said head gimbal assembly on said surface is formed on said surface.

8. Claim 27 is rejected under 35 U.S.C. 102(e) as being anticipated by Larson (US 5,862,019).

With regard to claim 27, Larson shows a head stack assembly in Fig. 6 for a data recording disk drive, including: a plurality of carriages 78 and 48, which has a first surface and a second surface; a first head gimbal assembly 94 mounted on said first surface; a second head gimbal assembly 58 mounted on said second surface of the carriage 78; and a first head gimbal assembly mounted on said first surface; a second head gimbal 58 assembly mounted on said second surface; and wherein a datum member (Fig. 6, not numerated) for positioning said first head gimbal assembly on said first surface and for positioning said second head gimbal assembly on said second surface of the carriage 48 is formed on each of said first surface and said second surface of both carriages.

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Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Umehara et al in view of Chan (US 5,677,815).

Umehara et al shows a head stack assembly as described above, which includes weight reduction holes (Column 3, lines 22-23), but does not show that the total weight of said head stack assembly is balanced at a center of said pivot member.

Chan shows a head assembly wherein the cutouts 52 (Fig. 4) are shaped and positioned so as to balance actuator assembly (Column 5, lines 45-47).

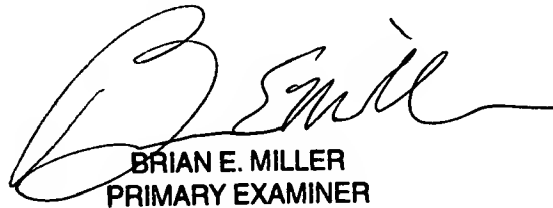
It would have been obvious at the time the invention was made to one of ordinary skill in the art to reshaped the weight reduction holes in Umehara et al's device to balance the head stack assembly, inherently at the center of the pivot member. The rationale is as follows: balancing a head stack assembly at a center of a pivot member for making the assembly pivot properly is an old and well known technique in the art. Umehara et al shows a weight reduction hole in on the arm, Chan teaches that by shaping and positioning the holes on the arm can balance the assembly (inherently it is balanced at a center of a pivot member). One of ordinary skill in the art would have been motivated to shape the hole in Umehara et al's device to balance the head stack assembly at the center of the pivot member, thus making the assembly pivot smoothly.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 306-0377.

TC
April 22, 2002



BRIAN E. MILLER
PRIMARY EXAMINER